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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/820,074	03/28/2001	Huig Klinkenberg	ACO2774US	4035

7590

09/05/2003

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14
EXAMINER

BERMAN, SUSAN W

ART UNIT

PAPER NUMBER

1711

DATE MAILED: 09/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/820,074

Applicant(s)

KLINKENBERG ET AL

Examiner

Susan W Berman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Response to Arguments

Applicant argues that one skilled in the art would not have been motivated to combine the teachings of CA '504 with the teachings of WO '964 or WO '524. This argument is not persuasive because the disclosures of CA '504 and each of WO '964 and WO '524 are considered to be analogous art disclosing photocurable compositions comprising base-catalysable binders comprising compounds with activated CH groups and alpha,beta-ethylenically unsaturated compounds, as instantly claimed, and basic catalysts for curing the compositions. The rejections of record have been clarified to emphasize that the photoactivatable bases disclosed by WO '964 and by WO '524 release amines or amidines upon irradiation and would, therefore, be expected to provide Lewis base catalysts, as taught in the compositions disclosed by CA '504. The difference is that the Lewis base catalysts taught by WO '964 or WO '534 are photolabile bases while the Lewis bases and Bronsted bases taught by CA '504 are not photolabile bases. However, the catalysts disclosed by CA '504 and the photolabile base catalysts taught by the secondary references provide the same amine bases to catalyze binder compositions disclosed by CA '504. Each of WO '964 and WO '524 teaches reasons, such as a higher level of storage stability and higher sensitivity, that would have motivated one skilled in the art at the time of the instantly claimed invention to employ the disclosed photoactivatable bases in the photopolymerizable compositions comprising a basic catalyst taught by CA '504. It is the examiner's position that one of ordinary skill in the art would have been motivated to employ the photoactivatable bases taught by WO '964 or WO '524 in addition to the conventional Lewis base catalysts taught by CA '504. Applicant argues that WO '964 does not teach or suggest adding unblocked Lewis or Bronsted bases to the compositions disclosed by WO '964. This argument is not persuasive because the rejection is not based on such as teaching or suggestion. The rejection is based on the teaching or suggestion in WO '964 of reasons to employ the disclosed photoactivatable bases in the compositions taught by CA '504. The comprising language of the

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instant claims encompasses the free radical or cationic photoinitiator also present in the compositions disclosed by CA '504.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1 and 3-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over CA 2 101 504 A in view of WO 00/10964, published March 02, 2000. The translation provided by applicant in copending Serial No. 09/865025 is relied upon for the disclosure of WO '964. CA '504 discloses compositions comprising a photoinitiator, such as free radical acylphosphine oxides or arylketones or cationic sulphonium salts, and components corresponding to the instantly claimed composition components (A), (B) and (C). The sensitizers set forth in instant claim 6 are taught. CA '504 teaches that the polymerization of the disclosed compositions is catalyzed by a basic catalyst in the particularly suitable form of Lewis bases, such as amines or amidines. The specific catalysts (D) taught by CA '504 are unblocked Lewis or Bronsted bases corresponding to the catalyst (C) claimed by applicant. CA '504 teaches that the disclosed binders are particularly suitable for automotive repair lacquers. CA '504 does not disclose ammonium, iminium or amidinium borate salts corresponding to applicant's photolabile base as photoinitiator component (D).

WO '964 discloses alpha-ammonium alkenes, iminium alkenes and amidinium alkenes in the form of tetraryl- or triaryl-alkylborate salts for use in systems that require a photoinitiator which splits off a base, such as amine or amidine, during irradiation. WO '964 teaches that the disclosed compounds have a high level of sensitivity, that their absorption spectrum can be varied within a wide range and that the compounds enable preparation of one-pot systems having an "extraordinarily high level of storage stability" (page 1, last paragraph, to page 2, line 7). Compositions disclosed comprise preferable base

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catalysable binders "n" corresponding to the instantly claimed compositions (page 15). WO '964 does not teach adding Lewis or Bronsted bases corresponding to applicant's component (C) as catalysts.

It would have been obvious to one skilled in the art to employ the photoactivatable bases taught by WO '964 as the catalyst in the form of Lewis bases or Bronsted bases in the compositions taught by CA '504. CA '504 and each of WO '964 and WO '524 are considered to be analogous art disclosing photocurable compositions comprising base-catalysable binders comprising compounds with activated CH groups and alpha,beta-ethylenically unsaturated compounds, as instantly claimed, and basic catalysts for curing the compositions. CA '504 provides motivation to employ basic catalysts by teaching that the disclosed compositions are curable in the presence of a catalyst in the form of a Lewis or Bronsted base and a photoinitiator that can be stored with the reactive components of the composition. The photoactivatable bases taught by WO '964 are said to split off an amine, imine or amidine group during irradiation, thus providing a Lewis base as required in the compositions disclosed by CA '504. WO '964 teaches analogous compositions comprising an ethylenically unsaturated carbonyl compound and a polymer containing activated CH₂ groups are a preferred base-catalysable binder, thus providing a reasonable expectation of success as motivation to employ the disclosed photoactivatable bases in the compositions taught by CA '504. One of ordinary skill in the art at the time of the invention would have been further motivated by an expectation of taking advantage of the curing effects and high level of storage stability of the alpha-ammonium alkenes, imminium alkenes and amidinium alkenes in the form of tetraryl- or triaryl-alkylborate salts taught by WO '964 and the curing effects of the basic catalyst for curing thicker layers or concealed areas taught by CA '504. Compositions comprising both kinds of catalyst would be curable by irradiation and provide crosslinking in thicker layers or concealed areas not reached by UV light because the catalyst is included with the photoinitiator, as taught by CA '504 (page 1, lines 25-31).

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Claims 1 and 3-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over CA 2,101,504 in view of WO 98/41524. The disclosure of CA '504 is discussed above. WO '524 discloses photoactivatable nitrogen-containing bases based on alpha-amino alkenes for initiating polymerization of compositions such as "n" defined on page 14 and corresponding to the instantly claimed composition. WO '524 teaches that the alpha-amino alkenes disclosed release an amidine group on light exposure, that the compounds are of high sensitivity, that the absorption spectrum can be varied within a wide range and that the compounds provide one-pot systems having an "extremely long storage life" (page 1, last paragraph, to page 2, line 11). WO '524 does not teach also adding a Lewis or Bronsted base catalyst corresponding to applicant's component (C) set forth in instant claim 1.

It would have been obvious to one skilled in the art to employ the photoactivatable bases taught by WO '524 as the catalyst in the form of Lewis bases or Bronsted bases in the compositions taught by CA '504. CA '504 provides motivation by teaching that the disclosed compositions are curable by radiation in the presence of a catalyst in the form of Lewis bases or Bronsted bases and a photoinitiator that can be stored with the reactive components of the composition. The photoactivatable nitrogen-containing bases taught by WO '524 are said to release an amidine group upon irradiation, thus providing a Lewis base as required in the compositions disclosed by CA '504. WO '524 teaches analogous compositions comprising an ethylenically unsaturated carbonyl compound and a polymer containing activated CH₂ groups are a preferred base-catalyzable binder, thus providing a reasonable expectation of success as motivation to employ the disclosed photoactivatable bases in the compositions taught by CA '504. One of ordinary skill in the art at the time of the invention would have been motivated by an expectation of taking advantage of both the disclosed properties of high sensitivity, that the absorption spectrum can be varied within a wide range and that the compounds provide one-pot systems having an "extremely long storage life" of the photoactivatable nitrogen-containing bases based on alpha-amino alkenes taught by WO '524 and the curing effects of the basic catalyst for curing thicker layers or

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concealed areas taught by CA '504. Compositions comprising both kinds of catalyst would be curable by irradiation and provide crosslinking in thicker layers or concealed areas not reached by UV light because the catalyst is included with the photoinitiator, as taught by CA '504 (page 1, lines 25-31).

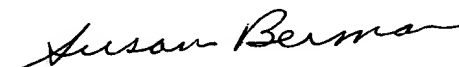
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan W Berman whose telephone number is 703 308 0040. The examiner can normally be reached on M-F 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 703 308 2462.

The fax phone numbers for the organization where this application or proceeding is assigned are 703 872 9310 for regular communications and 703 872 9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0661.



Susan W Berman
Primary Examiner
Art Unit 1711

SB
September 3, 2003